



DT115c'd PCT/PTO JUN 18 2002

PCT

Docket No. 55908 (46322)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**APPLICANTS:** Julian Schofield, et al.      **EXAMINER:** Not Yet Assigned

**SERIAL NO.** 09/868,879      **GROUP:** Not Yet Assigned

**FILED:** 22 June 2001

**FOR:** GLYCOSYL PHOSPHATIDYL INOSITOL SPECIFIC PHOSPHOLIPASE D  
PROTEINS AND USES THEREOF

\*\*\*\*\*

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Assistant Commissioner for Patents and Trademarks, Washington, D.C. 20231 on June 14, 2002,

By: Patricia A. Barnes  
Patricia A. Barnes

\*\*\*\*\*  
Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Date June 14, 2002

Dear Sir:

**INFORMATION DISCLOSURE STATEMENT**

In accordance with the provisions of 37 C.F.R. §§1.56 and 1.97, Applicant herewith submits the publications and/or patents shown on the attached form PTO-1449, for consideration by the Examiner in connection with the examination of the above-identified patent application.

**REMARKS**

In accordance with the provisions of 37 C.F.R. § 1.97, this statement is being filed (CHECK ONE):

X (1) within three (3) months of the **Filing Date** or before the mailing date of the **First Office Action** on the merits; or



- (2) after the period defined in (1) but before the mailing date of a **Final Rejection** or **Notice of Allowance**, and the requisite Certification or fee under Rule 1.17(p), namely \$180.00, is included herein; or
- (3) after the mailing date of a **Final Rejection** or **Notice of Allowance** but before the payment of the **Issue Fee**, and the requisite Certification, petition, and petition fee are included herein.

It is respectfully requested that each of the documents shown on the attached form(s) PTO-1449 be made of record in this application. Copies of these documents (CHECK ONE):

are enclosed herewith; or

are in the file of related application Serial No. filed \_\_\_\_\_, and are thus not being resubmitted herein.

Should any fee associated with the submission of this paper not be attached hereto as a check, the Commissioner is authorized to charge the missing fee to our Deposit Account, No. 04-1105. Any overpayments should be credited to said Deposit Account. Early examination and allowance of the present application are respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert L. Buchanan, Esq."

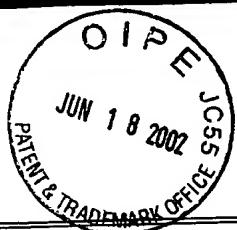
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PATENT TRADEMARK OFFICE



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#### UNITED STATES PATENT DOCUMENTS

EXAM. INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	5,418,147	05/23/95	Huang, et al.	435	69.1	03/31/92

#### FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO
	BA	WO 99/47565	23/09/99	PCT			Y
	BB	0 477 739 A2	01/04/92	EP	C12N	15/55	Y

#### OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

CA	Lierheimer, et al., "The neuronal cell-adhesion molecule axonin-1 is specifically released by an endogenous glycosylphosphatidylinositol-specific phospholipase"; Eur. J. Biochem. Vol. 243, pp. 502-510, 1997.
CB	Scallion, et al., "Primary Structure and Functional Activity of a Phosphatidylinositol-Glycan-Specific Phospholipase D", Science, Vol. 252, pp 446-448, 1991
CC	Jones, et al., "Glycosyl-phosphatidylinositol-phospholipase Type D: A Possible Candidate for the Generation of Second Messengers", Biochem. And Biophys. Res. Comm., vol. 233, pp 432-437, 1997.
CD	Caro, et al., "Isolation and Partial Characterisation of Insulin-Mimetic Inositol Phosphoglycans from Human Liver", Biochem. And Molec. Med., vol. 61, pp 214-228, 1997.
CE	Rademacher, et al., "Inositolphosphoglycan second messengers", Brazilian J Med Biol Res, vol 27, pp 327-341, 1994.
CF	Deeg, et al., "Regulation of Glycosylphosphatidylinositol-Specific Phospholipase D Secretion from BT2C3 cells", Endocrinology, Vol. 136, No. 2, pp 819-826, 1997.

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	CG	Heller, et al., "Generation by limited proteolysis of a catalytically active 39-kDa protein from the 115-kDa form of phosphatidylinositol-glycan-specific phospholipase D from bovine serum", Eur. J. Biochem., vol. 224, pp 823-833, 1994.	
	CH	Li, et al., "Structural Features of GPI-specific Phospholipase D Revealed by Proteolytic Fragmentation and $\text{Ca}^{2+}$ Binding Studies", Journal of Biological Chemistry, vol. 269, no. 46, Issue of November 18, pp 28963-28971, 1994.	
	CI	LeBoeuf, et al., "Mouse Glycosylphosphatidylinositol-specific phospholipase D ( <i>Gpld1</i> ) characterization", Mammalian Genome vol. 9, pp 710-714, 1998.	
	CJ	Alemany, et al., "Phospho-dephospho-control by insulin is mimicked by a phospho-oligosaccharide in adipocytes", Nature, vol. 330, November 5, 1987, pp 77-79.	
	CK	Thompson, et al., "CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penalties and weight matrix choice", Nucleic Acids Research, vol. 22, no. 22, pp 4673-4680, 1994.	
	CL	Vicent, et al., "Alterations in Skeletal Muscle Gene Expression of <i>ob/ob</i> Mice by mRNA Differential Display", Diabetes, vol. 47, pp 1451-1458, September 1998.	
	CM	Maguire, et al., "Glycosyl phosphatidyl inositol phospholipase D activity in human serum", Ann. Clin. Biochem., vol. 32, pp 74-78, 1995.	
	CN	Huang, et al., "Chiroinositol Deficiency and Insulin Resistance. III. Acute Glycogenic and Hypoglycemic Effects of Two Inositol Phosphoglycan Insulin mediators In Normal and Streptozotocin-Diabetic Rats <i>in Vivo</i> ", Endocrinology, vol. 132, no. 2, pp. 652-657, 1993.	
	CO	Hoener, et al., "Phosphatidylinositol-glycan-specific phospholipase D is an amphiphilic glycoprotein that in serum is associated with high-density lipoproteins", Eur. J. Biochem., vol. 206, pp 747-757, 1992.	
	CP	Lin et al. "Possible Role of Glycosyl-Phosphatidylinositol (GPI) Anchor Hydrolysis in IgE-Dependent Activation of a Rat Mast (RBL2H3) Cell Line", J. Biol. Chem., Vol. 115, p 220a, 1991.	
	CQ	M.A. Deeg, "GPI-specific phospholipase D as an apolipoprotein", Brazilian J Med Biol. Res, vol. 27, pp 375-381, 1994.	
	CR	Brewer, et al., "Isolation and Characterization of Apolipoproteins A-I, A-II, and A-IV", Methods in Enzymology, vol 128, pp 223-246, 1986.	
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	CS	Hoener, et al., "Glycosyl-phosphatidylinositol-specific phospholipase D Interaction with and stimulation by apolipoprotein A-I", FEBS, vol. 327, no. 2, pp 203-206, 1993.	
	CT	Schofield, et al., "Structure and expression of the human glycosylphosphatidylinositol phospholipase D1 (GPLD1) gene", Biochimica et Biophysica Acta, vol. 1494, pp 189-194, 2000.	
	CU	Rhode, et al., "Glycosylphosphatidylinositol-specific phospholipase D in blood serum: Is the liver the only source of enzyme?", Clinica Chimica Acta, vol. 281, pp 127-145, 1999.	
	CV	Wilhelm, et al., "Cellular Glycosylphosphatidylinositol-Specific Phospholipase D Regulates Urokinase Receptor Shedding and Cell Surface Expression", Journal of Cellular Physiology, vol. 180, pp 225-235, 1999.	
	CW	Jones, et al., "The role of glycosyl-phosphatidylinositol in signal transduction", The International Journal of Biochemistry & Cell Biology, vol. 30, pp 313-326, 1998.	
	CX	Nazih-Sanderson, et al., "HDL <sub>3</sub> -signalling in HepG <sub>2</sub> cells involves glycosyl-phosphatidylinositol-anchored proteins", Biochimica et Biophysica Acta, vol. 1346, pp 45-60, 1997.	
	CY	Jones, et al., "Interleukin-2 stimulates a late increase in phosphatidic acid production in the absence of phospholipase D activation", FEBS, vol. 433, pp 23-27, 1998.	
	CZ	Küng, et al., "Expression of intracellular and GPI-anchored forms of GPI-specific phospholipase D in COS-1 cells", Biochimica et Biophysica Acta, vol. 1357, pp 329-338, 1997.	
	CCA	Stadelmann, et al., "The C-terminus of glycosylphosphatidylinositol-specific phospholipase D is essential for biological activity", Biochimica et Biophysica Acta, vol. 1355, pp 107-113, 1997.	
	CCB	Hari, et al., "Uptake and intracellular stability of glycosylphosphatidylinositol-specific phospholipase D in neuroblastoma cells", Biochimica et Biophysica Acta, vol. 1355, pp 293-302, 1997.	
	CCC	Hari, et al. "Subcellular distribution of glycosylphosphatidylinositol-specific phospholipase D in rat liver", Biochem. J., vol. 320, pp 315-319, 1996.	
	CCD	Deng, et al., "Hydrolysis of membrane-bound liver alkaline phosphatase by GPI-PLD requires bile salts", American Physiological Society, pp G655-G663, 1996.	
	CCE	Deeg, et al., "Glycosylphosphatidylinositol-Phospholipase D: A Tool for Glycosylphosphatidylinositol Structural Analysis", Methods in Enzymology, vol. 250, 1995.	
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CCF	Hanada, et al., "Both Sphingolipids and Cholesterol Participate in the Detergent Insolubility of Alkaline Phosphatase, a Glycosylphosphatidylinositol-anchored Protein, in Mammalian Membranes", The Journal of Biological Chemistry, vol. 270, no. 11, pp 6254-6260, March 17, 1995.		
CCG	Clemente, et al., "Role of Glycosyl-Phosphatidylinositol Hydrolysis as a Mitogenic Signal for Epidermal Growth Factor", Cellular Signalling, vol. 7, no. 4, pp 411-421, 1995.		
CCH	Lisanti, et al., "Caveolae, transmembrane signalling and cellular transformation", Molecular Membrane Biology, Vol. 12, pp 121-124, 1995.		
CCI	Patrick J. Casey, "Protein Lipidation in Cell Signaling", Science, vol. 268, pp 221-225, April 14, 1995.		
CCJ	Xie, et al., "Streptolysin-O induces release of glycosylphosphatidylinositol-anchored alkaline phosphatase from ROS cells by vesiculation independently of phospholipase action", Biochem. J., vol. 305, pp 529-537, 1995.		
CCK	Stadelmann, et al. "Distribution of glycosylphosphatidylinositol-specific phospholipase D mRNA in bovine tissue sections", Cell Tissue Res., vol. 274, pp 547-552, 1993.		
CCL	Brunner, et al., "An Endogenous Glycosylphosphatidylinositol-Specific Phospholipase D Releases Basic Fibroblast Growth Factor-Heparan Sulfate Proteoglycan Complexes From Human Bone Marrow Cultures", Blood, vol 83, no. 8 pp 2115-2125, April 15, 1994.		
CCM	Xie, et al., "Expression and secretion of glycosylphosphatidylinositol-specific phospholipase D by myeloid cell lines" Biochem J., vol. 297, pp 547-554, 1994.		
CCN	Metz, et al., "Release of GPI-anchored membrane proteins by a cell-associated GPI-specific phospholipase D" The EMBO Journal, vol. 13, no. 7, pp 1741-1751, 1994.		
CCO	Brodbeck, et al., "GPI anchor-hydrolyzing phospholipases", Brazilian J Med. Biol. Res., vol. 27, pp 369-374, 1994.		
CCP	Bergman, et al., "Saponin-induced release of cell-surface anchored Thy-1 by serum glycosylphosphatidylinositol-specific phospholipase D", Biochem J., vol. 298, pp 661-668, 1994.		
CCQ	Müller, et al., "Membrane Association of Lipoprotein Lipase and a cAMP-Binding Ectoprotein in Rat Adipocytes" Biochemistry, vol. 33, pp 12149-12159, 1994.		
CCR	Raymond, et al., "Inositol-specific phospholipase D activity in health and disease", Clinical Science, vol. 86, pp 447-451, 1994.		

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CCS	Mackness, et al., "HDL, its enzymes and its potential to influence lipid peroxidation", Atherosclerosis, vol. 115, pp 243-253, 1995.		
CCT	Romero, et al., "Insulin Mediators and the Mechanism of Insulin Action", Advances in Pharmacology, vol. 24, pp. 21-50, 1993.		
CCU	Low, et al., "Phosphatidic Acid, Lysophosphatidic Acid, and Lipid A Are Inhibitors of Glycosylphosphatidylinositol-specific Phospholipase D", The Journal of Biological Chemistry, vol 268, no. 12, pp 8480-8490, April 25, 1993.		
CCV	Richard G.W. Anderson, "Caveolae: Where incoming and outgoing messengers meet", Proc. Natl. Acad. Sci., vol. 90, pp 10909-10913, December 1993.		
CCW	Heller, et al., "A novel form of glycosylphosphatidylinositol-anchor converting activity with a specificity of a phospholipase D in mammalian liver membranes", Biochimica et Biophysica Acta. Vol. 1109, pp 109-116, 1992.		
CCX	Metz, et al., "Immunolocalization of a Glycosylphosphatidylinositol-specific Phospholipase D in Mast Cells Found in Normal Tissue and Neurofibromatosis Lesions", American Journal of Pathology, vol. 140, no. 6, pp 1275-1281, June 1992.		
CCY	Metz, et al. "Characterization of the Plasma Glycosylphosphatidylinositol-Specific Phospholipase D (GPI-PLD), Cell Biology International Reports, vol. 15, no. 9, pp 875-882, 1991.		
CCZ	Metz, et al.; "Production of the Glycosylphosphatidylinositol-specific Phospholipase D by the Islets of Langerhans", The Journal of Biological Chemistry, Vol. 266, pp. 17733-17736, September 25, 1991.		
CCCA	Cardoso de Almeida, et al., "Identification of an Acid-Lipase in Human Serum which is capable of Solubilizing Glycophosphatidylinositol-Anchored Proteins", Biochemical and Biophysical Research Communications, Vol. 150, No. 1, pp. 476-482, 1988.		
CCCB	Davitz, et al., "A Glycan-Phosphatidylinositol-Specific Phospholipase D in Human Serum", Science Vol. 2, pp.81-84, October 1987.		
CCCC	Davitz, et al., "Purification of a Glycosyl-Phosphatidylinositol-specific Phospholipase D from Human Plasma", The Journal of Biological Chemistry, Vol. 264 , No. 23, pp. 13760-13764, 1989.		
CCCD	Michael A. J. Ferguson, "Lipid anchors on membrane proteins", Current Opinion in Structural Biology, Vol. 1, pp. 522-529, 1991.		
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CCCE	Hereld, et al., "A Phospholipase C from <i>Trypanosoma brucei</i> which Selectively Cleaves the Glycolipid on the Variant Surface Glycoprotein", The Journal of Biological Chemistry, Vol. 261, No. 29, pp. 13613-13819, October 15, 1986.		
CCCE	Bülow, et al., "Purification and Characterization of the Membrane-form Variant Surface Glycoprotein Hydrolase of <i>Trypanosoma brucei</i> ", The Journal of Biological Chemistry, Vol. 261, No. 25, Sept. 5, 1986, pp. 11918-11923.		
CCCG	Huang, et al., "Purification and Characterization of Glycosyl-phosphatidylinositol-specific Phospholipase D", The Journal of Biological Chemistry, Vol. 265, No. 29, Oct. 15, 1990, pp. 17738-17745.		
CCCH	Martin G. Low, "The glycosyl-phosphatidylinositol anchor of membrane proteins", Biochimica et Biophysica Acta, Vol. 988, pp. 427-454, 1989.		
CCCI	Low, et al., "A phospholipase D specific for the phosphatidylinositol anchor of cell-surface proteins is abundant in plasma", Proc. Natl. Acad. Sci. USA, Vol. 85, pp. 980-984, February 1988.		
CCCJ	Low, et al., "Factors affecting the ability of glycosylphosphatidylinositol-specific phospholipase D to degrade the membrane anchors of cell surface proteins", Biochem. J., Vol. 279, pp. 483-493, 1991.		
CCCK	Stieger, et al., "Enzymatic properties of phosphatidylinositol-glycan-specific phospholipase C from rat liver and phosphatidylinositol-glycan-specific phospholipase D from rat serum", FEBS 1991		
CCCL	Xie, et al., "Glycosylphosphatidylinositol-specific phospholipase D is localized in keratinocytes", The American Physiological Society, pp. C1156-C1168, 1993.		
CCCM	Tsang, et al., "Isolation and expression of two human glycosylphosphatidylinositol phospholipase D (GPI-PLD) c DNAs", EMBL Database, Heidelberg, FRG ascension number L11702; FASEB J. (Supp), 6, A1922.		

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